INTERNATIONAL UNION for PURE and APPLIED BIOPHYSICS

IUPAB NEWS

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Activities of the INTERNATIONAL UNION for PURE and APPLIED BIOPHYSICS
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Editor's Note

This year has seen planning progress for the 17th International Biophysics Congress to be held in Beijing in 2011, and the President's Report gives information on this. There is also a Flyer and Timetable on the IUPAB website.

At the Congress, Professor Kuniaki Nagayama will retire as President and President-Elect Professor Gordon Roberts will take office. A discussion paper on his plans for his tenure begins on page **8.**

There is no report from the Treasurer, Professor Patrick Cozzone. This has been deferred until after the Beijing Congress, when a full summary will be made.

A major event of the year was the Congress in Buzios, Brazil, arranged by Marcelo Morales whose report is on Page **14.** A most important aspect was the attendance of students from African countries, co-sponsored by IUPAB and ICSU.

You will find edited reports from some of these students starting on page **15;** I quote the supervisor of one of these students, Anley Tefera "*Anley enjoy a lot the course and I think that this could be a key event in his career".*

Also in this issue is a feature on **Women in Science**, with a profile of an outstanding female scientist. We plan to make this a regular feature of the News, and I would be happy to receive suggestions from members for this topic.

This year IUPAB nominated four candidates for the L'Oreal-UNESCO Women in Science Awards; one each from Asia, Europe, Latin America and USA.

Notices of planned Conferences, Summer Schools and Postgraduate Programs, with appropriate links, can be included on our website, which is regularly updated. Please keep this in mind if you are organizing such an event. We would like to hear from you.

With best wishes,

Louise Matheson
Editor
mail@iupab.org

President's Report

The most important project for IUPAB in the past year has been preparation for the 17th IUPAB International Biophysics Congress to be held in Beijing from October 30 to November 3 of 2011.

There has been one Council and two Executive meetings during this year, both partly in conjunction with the Biophysical Society of China (BSC) to tackle the 17th IBC together. Below is my summary of the preparations to date, including the results of the IUPAB President-BSC meeting and the outcomes of recent email correspondence between IUPAB and BSC.

1. IUPAB Executive Meetings held in CNCC (China National Convention Center, Grand Hotel, Beijing on November 26 and 30, 2009.

The meeting discussed strategic and political approaches to deal with: (1) selection of Congress themes; (2) selection of plenary lecturers; (3) financial contingencies; (4) possible renaming of IUPAB; (5) functions of IUPAB; (6) a new strategic plan; and (7) miscellaneous issues.

2. Meeting with the BSC held at the Institute of Biophysics November 27 and 28, 2009.

Present: Pingsheng Liu (program spokesperson), Jungxian Shen, Xiyun Yan, Mark Bartlam, Shunyi Wei, Kuniaki Nagayama, Gordon Roberts, Patrick Cozzone, Cris dos Remedios and Ian Smith.

Arranging the Program for 17th IBC

The BSC reviewed the meeting with IUPAB in September 2007 and suggested moving the Congress venue from the Friendship Hotel to the China National Convention Center.

The 3.5 day program consists of 8 plenary lectures including 4 named – Kachalski, Engstrom, Ramachandran and Bei lectures, 32 symposia and 1 Workshop.

A list of session themes prepared by IUPAB Executive was tabled. The Executive also wished to insert Capacity Building, e.g. promoting biophysics in Africa. Finally 30 topics were selected plus (i) Biophysics in emerging nations; (ii) Computational biophysics and (iii) Capacity building in developing nations.

The idea was raised of using barcodes to regulate student attendance, as occurred in Buzios, Brazil.

Plenary speakers: 9 candidates were suggested.

Congress Budget: 4,250,000 RMB total budget. Breakeven point is about 1500 delegates.

Congress dates: Monday, October 30 (registration, Welcome Reception and Plenary Lecture 1) through November 3, 2011. Sessions start at 8.30 am. Plenary speakers 40 mins., invited speakers 20 mins + 10 mins. Student workshops will follow the Congress when it ends on Nov. 3. Suggested dates are November 4-6, 2011.

IUPAB General Assembly will be at 6-8 pm on Wed., November 1, 2011

Site inspection: The delegation then inspected the National Convention Center located almost next to the CNCC Grand Hotel.

3. IUPAB Executive Meetings, Okazaki, March 31 & April 1, 2010.

Present: K. Nagayama, G. Roberts, P. Cozzone, C. dos Remedios.
Topics covered were: (1) financial difficulties due to delinquent subscriptions from adhering bodies; (2) duties of IUPAB Councillors; (3) Congress Chairs and speakers; (4) strategic plan; (5) pre-meeting with BSC Executive; and (6) miscellaneous.

4. IUPAB Council meeting with BSC representatives, Okazaki, April 1 and 2, 2010.

Present: (IUPAB) K. Nagayama (Japan), G. Roberts (UK), C. dos Remedios (Australia), P. Cozzone (France), A. Alonso (Spain), F.J. Barrantes (Argentina), M.I. El Gohary (Egypt), N.R. Jagannathan (India), E. Kovacs (Bulgaria), P. Laggner (Austria), M.M. Morales (Brazil), U. Nienhaus (Germany), M. Prieto (Portugal), A. Rubin (Russia).
(BSC) Xiyun Yan, Junxian Shen, Pingsheng LIU Chen.

Arranging Programs for 17th IBC: The first item was to ask Council to construct a list of Co-Chairs and speakers for the 32 symposia proposed by IUPAB Executive and BSC. Suggestions were by nominations by national societies and other sources, and others proposed from the floor.

Educational sessions are in the main program on Oct. 31 and Nov. 1. Ultimate control will rest with the Program Committee.

IUPAB Council discussed (1) current financial situation; (2) strategic plan; (3) renaming of IUPAB; (4) funding of schools and capacity building; (5) regional associations; (6) task forces renovation; (7) Indian biophysics; (8) biophysics in Africa; (9) L'Oreal-UNESCO Award for Women in Science; (10) Biophysical Reviews; and (11) miscellaneous matters.

5. IUPAB President – BSC meeting at Institute of Biophysics, Beijing, August 1, 2010.
Present: K. Nagayama, Z. Rao, X. Yan, J. Shen, P. Liu, H. Hang, S. Wei, W. Xu.

Items discussed were: (1) 17th IBC website **www.17ibc.org**; (2) Congress theme; (3) plenary speakers; (4) extension of symposia; (5) number of parallel sessions; (6) session chairs; (7) pre-Congress workshop; (8) financial problems; (9) organization of committees; and (10) conference rooms.

3. Current status of Program:

1) Congress subtitle: "From fundamental mechanisms to human health".
2) Congress venue: China National Convention Centre, Beijing.
3) Congress dates: October 30 – November 3, 2011.
4) Symposium topics: these are listed in full on the Congress flyer on the IUPAB website.
5) Timetable is posted on the IUPAB website.

6) Plenary speakers: Thomas A. Steitz, UK (2009 Nobel Prize in Chemistry); Xiaodong Wang, China (mitochondria/apoptosis); Elizabeth H. Blackburn, Australia (2009 Nobel Prize in Ageing); Richard Ernst, Switzerland (1991 Nobel Prize in Chemistry); Kauhiko Kinosita, Japan (single molecule biophysics).

Professor Kuniaki Nagayama
President
Okazaki, Japan
December, 2010

A report from the Secretary-General

Support for Biophysics in Africa

The African continent, from its top to its bottom, contains sufficient intellectual power to keep its "lights" burning well into the future.

Historically, the African continent produced scientists that understood in great detail the challenges of science and medicine. Morocco for example had advanced designs for hospitals and a superb understanding of basic science, medicine and architecture dating back several hundred years**.** The structures are still there but where is the science?

The population of Africa is slightly larger than in Europe but the contributions of these two regions is vastly different when it comes to the current body of science in general, and biophysics in particular.

With the exception of South Africa, which country in Africa can claim to have a world-class advanced scientific institution? In other words, if '""lights" are to burn in Africa, how do we find the switch?

In 2000 I wrote an essay for *IUPAB News* that argued for the importance of governments investing in science, particularly pure science as opposed to applied science (IUPAB does stand for both 'Pure' and 'Applied' biophysics).

The major thrust of the argument was that every country must invest in science, even if the investment is modest.

The argument goes like this: people of all persuasions, all races, – whether first o**r** third world – have their share of gifted and brilliant people.

Even the smallest and poorest of countries needs to fund local science because science drives economic prosperity.

If a country fails to invest, even modestly, in its science program, it runs the risk of permanently driving its best minds and most able scientists to more developed countries.

Several of the many International Unions do recognize this problem, namely how to encourage home-grown development of science.

They have developed teaching and research programs and have taken them into Africa. Some are focussed on teaching science teachers to be better. Others have focussed on workshops designed to add value to local courses in African schools and universities.

In 2009 I submitted a plan to ICSU to fund an entirely different approach to encouraging the development of biophysics in Africa.

It was a simple idea, namely that the Union would try to show early career scientists from a range of African countries how science is done in regions of the world that have only recently emerged from Third World status.

Professor Marcelo Morales has a very strong reputation for encouraging the development of biophysics in Latin America, and in Brazil in particular.

His courses have attracted literally hundreds of students to come together in the presence of the best available teachers in biophysics, and literally to show them how to work together.
Professor Morales is currently the President of the relatively new Latin American Federation of Biophysical Societies (LAFeBS) and used his influence to convince the Brazilian government to financially support his programs.

Together with colleagues from Argentina, Chile and many of the smaller Latin American countries, LAFeBS has been responsible for fostering biophysics and ensuring that limited research resources are made available to graduate students, regardless of their home institution.

Marcelo Morales was the perfect leader for my plan. I wanted to take bright young minds out of Africa and into an environment that fostered self-help, where there was no dominance from advanced western cultures, and where the African students would have the opportunity to meet and support each other. We looked for a good spread of countries and, where possible, a balance of gender.

Seed funding of US$30,000 was granted by ICSU and the selection of students was handed to the ICSU Regional Office for Africa (ROA).

We raised a total of $60,000 to transport a diverse group of ten Africans to Rio, to obtain visas for them, to provide accommodation for them, and to register them for Morales' workshop.

Simultaneous translation was also provided for the lectures. The students were then assigned to a biophysics laboratory for a second

week where they gained a better under-standing of how research in biophysics can be done. With a lot of help from the ICSU funding, IUPAB literally paid all the students' expenses.

The students were then surveyed to assess the impact on their thinking.

Without exception, all students reported positive experiences. All made new contacts and friends with Latin American students, and all returned to their homes enthused and inspired by their experience.

The responses and reactions of these students are presented in the following pages. I encourage you to read them for yourself.

We also learned a lot from the experience. There were visa problems, there was a need for special funding for a dis-advantaged student from South Africa, and we faced steep learning curves when it came to the logistics of running this educational experiment. And we learned about the hopes and aspirations of this next generation of African scientists, whom we trust will go on to make strong contributions to science in their homelands.

This is a good start, but it is only a foundation stone on which to begin to build biophysics in Africa. Time will tell if this first try to "switch the light on in Africa" will succeed in illuminating a new era.

Professor Cris dos Remedios
Secretary-General
October, 2010.

Report of Professor Gordon Roberts, President-Elect

Towards a Strategic Plan 2011-2013

According to our Statutes, the objectives of IUPAB are "**the advancement of education in the Science of Biophysics".** The Statutes give us the freedom to carry out a wide range of activities in support of these overall objectives.

Financial background
The main constraint on what we can do is, of course, financial. The only continuing source of income for IUPAB comes from the sub-scriptions of adhering bodies. However, of the 54 adhering bodies, less than a third pay their subscriptions regularly and on time.

This is clearly a serious situation, and places a major constraint on what we can do – for example in the support of workshops and summer schools.

It is very important that members of national Biophysical Societies should do their utmost to ensure that all Adhering Bodies pay their subscriptions promptly. Our Statutes already state "Any Adhering Body whose subscription is more than three years in arrears is not entitled to vote in the General

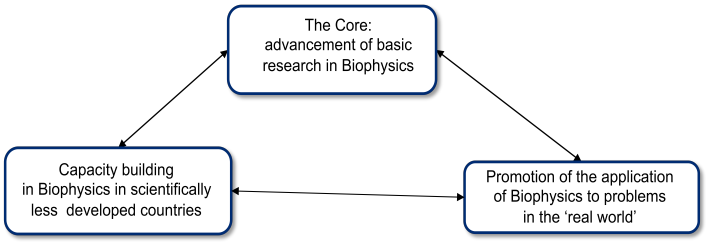
Assembly" and this will have to be rigorously enforced in the future.

Our new journal, *Biophysical Reviews,* published by Springer under the editorship of Professor Jean Garnier, has made an excellent start, publishing some first-rate reviews. However, it will be some while before the income from this source becomes signify-cant, and if this is to be achieved it is vital that we all do our best to ensure that the flow of good quality submissions increases.

It is clearly the case that, if IUPAB is to make a greater impact, it will be essential to put additional resources into our activities. ***To achieve this, we must seek matching funding for specific initiatives from other inter-national and/or regional organizations and work collabor-atively with such organizations on initiatives of mutual interest.***

A strategic plan for IUPAB: setting priorities

The current strategy of IUPAB has three components, each of which seems to be of continuing relev-ance for the future:



The core objective of IUPAB must continue to be the advancement of research in biophysics across the world.

- The flagship activity of IUPAB is the triennial series of International Biophysics Congresses, which play a unique role in providing over-views of the breadth and depth of international biophysics research.

- The second major activity of IUPAB is Capacity Building, through educational courses and workshops in scient-ifically less-developed countries. It is hoped that in future these activities can be run in conjunction with regional biophysics asso-ciations (see below).

- The promotion of the appli-cation of biophysics in a range of fields from medi-cine to nanotechnology is clearly important. This should preferably be carried out through collaborations with other relevant organiz-ations, including other scientific Unions, in order to reach the appropriate audiences.

Support for Schools and Workshops

Capacity Building in Biophysics in less-developed countries continues to be important and IUPAB must continue to support educational activities – indeed this should con-tinue to be second only to the Congress in its priorities.

Financial support for Schools and Workshops can take the form of direct grants to organisers, the provision of expenses towards meeting the cost of 'IUPAB Lecturers', and/or the provision of bursaries for young biophysicists. Given the limited resources of IUPAB, there are limitations to the support, which can be provided.

- In years in which an International Biophysics Congress is held, sup-port will be provided only to the Congress (notably in terms of bursaries to allow the attendance of young scientists from developing countries); no support will be available for other Meetings, Schools or Workshops.

- In other years, priority will be given to supporting Capacity Building activities. Support will only be given to conventional specialised scientific meetings if they have a strong Capacity Building element and/or they promote collaboration with other international organizations of Scientific Unions.

The limited funds available to IUPAB must be used carefully and selectively. It will not be possible to fully fund Schools and Workshops, and organizers are expected to raise at least matching funding from other sources – national, regional, international or industrial.

In many cases the involvement of IUPAB might be useful if leveraging such additional funding, and the Executive will help with this where possible. It is proposed that in the future we should consider greater involvement of IUPAB in the scientific/program committees of such Schools and Workshops.

It is essential that the funds IUPAB provide are used wisely and transparently, and it is expected that organizers of IUPAB-supported Schools and Workshops will provide timely financial and scientific reports. Council has resolved that if such reports are not received applicants will not be eligible for future funding.

Regional Biophysical Associations

There are currently three Regional Biophysical Associations, the Latin American Federation of Biophysical Societies, the Asian Biophysical Association and the European Biophysical Societies Association, each of which is a grouping of national Biophysical Societies. The Biophysical Society (USA) effectively covers North America, and of course has members from around the world.

The most conspicuous gap is Africa and it is clear that more work is needed to contribute to the development of Biophysics on the African continent. A recent initiative, with funding from ICSU, involving participation by African students in a LaFEBS/IUPAB-sponsored School in Latin America suggests one possible way forward.

There are clearly considerable advantages to IUPAB in working together with these regional associations, notably in Capacity Building activities. This kind of partnership would have obvious organizational benefits, and might keep costs

down y ensuring that we make the most of the available regional resources. It would also ensure that the Schools and Workshops were appropriately tailored to the target audiences.

It is proposed that Schools and Workshops sponsored jointly by IUPAB and the regional associations be actively promoted, perhaps becoming the norm in the future.

Task Forces

The Statutes envisage that Task Forces might be established by the Council "to take responsibility for: (a) the various branches of Biophysics; (b) for any other necessary purpose, including co-operation with other international organizations".

The four Task Forces which have existed in recent years are Bioinformatics, Biomedical Spectroscopy, Capacity Building and Education and NMR in Biological Systems. These have developed in a rather *ad hoc* fashion over the years, and it is timely to reconsider the roles of Task Forces in IUPAB.

At its meeting in Okazaki in April 2010, Council agreed that all existing Task Forces should be abolished immediately, with a view to bringing forward proposals for new Task Forces for approval by the next General Assembly.

In the light of the priorities outlined above, it is proposed that two Task Forces should be established:

1. In Capacity Building and Education to develop our educational activities in collaboration with the Regional Associations;
2. In Applications of Biophysics, promoting applications of biophysics in fields from medicine to nanotechnology and with a specific remit of working with other Scientific Unions and international organizations. This Task Force would also be responsible for any contributions from IUPAB to inter-Union efforts, led by ICSU, to bring science to bear on world and societal problems.

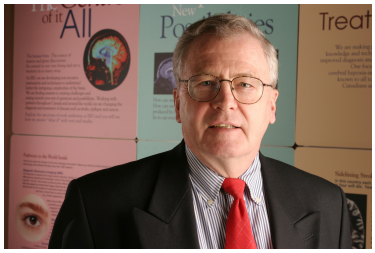
The constitution and membership (to include at least one member of Council) of these Task Forces will be approved by the Council after consultation with the Adhering Bodies and discussion in the General Assembly.

The convenor of each Task Force will be responsible for the presentation of a report on its work at each subsequent General Assembly.

It is hoped that these modest changes to the way in which IUPAB operates, with the emphasis on working with other international organizations, will allow it to continue to have a substantial influence in promoting the science of biophysics throughout the world, in spite of its limited resources.

Professor Gordon Roberts
University of Leicester, U.K.

Report of Professor Ian C.P. Smith



The main highlight during my tenure was the establishment of a new mini-review journal, *Biophysical Reviews.* We had been concerned that our previous activities with Quarterly Reviews of Biophysics had led to extremely long articles, sometimes as few as one per issue. We wanted a review journal whose articles brought readers rapidly to the state of the art, approximately ten printed pages each.

Discussions with Springer led to plans for *Biophysical Reviews,* first published in January 2009. We are now approaching the third year of publication and we are very happy with the quality and diversity of our mini-reviews. The governing council of IUPAB now constitutes the editorial board of the journal, but it will continue to grow with members from outside the Council.

The second highlight was our thrust into regional development in South America. Under the leadership of Professor Raoul Grigera of La Plata, Argentina, we obtained a large grant from ICSU, the International Council for Science, to enhance collaboration between researchers in the many countries of the region, often separated by large distances. This enabled the sharing of skilled talent and specialized equipment, formerly unavailable to a large number of students.

The result was enhanced education as well as increased productivity.

During this period we began discussions with our Chinese colleagues to hold our 2011 Biophysical Congress in Beijing. I had the pleasure of signing the agreement and working with the Chinese Biophysical Society to plan an outstanding congress. Details are contained in the President's Report.

The 2011 Congress will greatly catalyse the presence of IUPAB in Asia.

I shall leave the Council in 2012 knowing that IUPAB is in excellent hands. I mention especially the appointments of Cris dos Remedios as Secretary-General and Patrick Cozzone as Treasurer. They will provide excellent continuity through the various councils.

Ian C.P. Smith
Past President
2006-2008

Biophysical Reviews – A Progress Report

Now that the December issue is in production, *Biophysical Reviews* will soon have been in publication for two years and have produced eight issues. This is still not much for a new journal, so I think the time has come to assess its situation.

Thirty-four reviews have been published. If we add the 5 accepted manuscripts for the December issue, altogether 39 reviews will have been published in 8 issues, an average close to 5 reviews per issue. This is a positive result for a journal that started from scratch.

I want to underline this real achievement and give credit to the action of the members of the Editorial Board and especially to the Associate Editors, David Parry, Israel Pecht, Cris dos Remedios and Ian Smith who did their best, actively soliciting authors to write. The average time between the submission of manuscripts and their editorial decision has been 49 days.

Authors from Asia (Australia, Japan, India and New Zealand) represent 38% of our contributors, 36% are from Europe (France, Great Britain, Germany, Portugal, Rumania and Russia) and 26% are from North and South America (USA, Canada and Brazil). The laboratories that contributed most were from USA and Australia, and following in about the same proportion they were from India, France, Japan and Great Britain.

However some statistics are worth noting. Australia has contributed almost as much as US (6 versus 8 respectively). This reflects the outstanding activity of our colleague Cris dos Remedios on the one hand, and on the other how much effort still has to be made to convince our US colleagues to submit reviews to the Journal.

Clearly, the submission rate is a problem that we have to address. Sabine Schwarz, the Senior Editor of the Life Science Section of Springer raised some important points in her letter to all members of the current Editorial Board. She pointed out that we have not been able to build up a sufficient "buffer" of articles, so for me, each issue has been a race to get the manuscripts reviewed in time to send them into production.

Furthermore, we need to be aware that "the official threshold set by Thomson Reuters (ISI) for the recognition of a new journal" is 25 articles per year, and we are only around 20! Importantly, this situation currently prevents us applying for an impact factor for *Biophysical Reviews*.

I have to remind members of the Editorial Board that the task, and indeed the raison d'être, of each of us is to seek out and persuade authors to write reviews.

The longer we wait to apply for an impact factor, the more difficult this task becomes. Authors lack strong incentives to publish their results unless a journal has a high level of scientific prestige, and much less incentive to review the results of others.

The choice we made to publish *short* reviews was to facilitate their writing, and to encourage more authors to write. Grant applications require concise and accurate reviews of the field; good conferences also present good opportunities to ask invited speakers to write reviews of their fields.

Biophysical Reviews is the official publication of IUPAB and so it is the duty of every Member of Council to help make this a success. It is also in the interests of all IUPAB Adhering Bodies to build *Biophysical Reviews* into a successful journal.

If together we can achieve this, it will guarantee a strong income into the future.

We are developing new guidelines to boost participation in and success of the journal. They will soon be distributed to all members and to the Editorial Board.

Jean Garnier
Editor-in-Chief
Biophysical Reviews

III Latin American Biophysics Course and I Biophysics Colloquium BRAZIL-AFRICA

The Latin American Program of Biophysics, which was planned as part of the Regional Postgraduate Programs of the Task Force for Education and Capacity Building, has been operating since 2008 and is a great success in the region. To date, 32 institutions have been enrolled in the Program (12 from Argentina, 18 from Brazil, 1 each from Uruguay, Colombia and Venezuela.

Students are enrolled in one adhering University, the one that will issue their regular Diploma, and they fulfil all the requirements of such university. The Academic Committee of the Program considers the activities to be undertaken in order to do the Biophysics PhD or Master's, considering the interest of the candidate and giving the necessary advice.

The activities are done in any of the enrolled institutions selecting the best place for a given activity, including the development of the thesis.

Among the requirements is participation in at least one common activity (annual course, workshop, etc.) organized by the Program.

In 2010 we had a very special POSLATAM course. We had 410 students attending the course, and 120 posters presented.

Together with IUPAB, ICSU and other members for ROA we were able to bring 9 students from Africa to attend the course. We had students from South Africa, Kenya, Morocco, Zimbabwe, Uganda, Mozambique and Ethiopia.

It was a truly groundbreaking event, involving so many represent-

atives from Africa, and with such complicated organization required, including simultaneous translation, coming from distant countries such as those from Africa.

For students from Africa we had special arrangement that included simultaneous translation of all lectures. Also, we incorporated into the program a one-week individual "internship" in biophysics research labs at the Federal University of Rio de Janeiro.

and organization of transport and accommodation for all foreign students, especially the ones
The workshop program covered different aspects of basic biophysics such as: a) membrane transport;
b) protein structure; c) molecular modelling and dynamics; d) membrane biophysics; h) environmental biophysics; i) biophysics: from university to industry; Interface of biochemistry and biophysics.

Professor Marcelo M. Morales
Rio de Janeiro, Brazil

Following are edited reports from four of the African attendees who were sponsored jointly by IUPAB and ICSU.

From Gracinda Mondlane, Mozambique

My journey to the Biophysics Conference began when I received the invitation to participate. First of all my questions was "what is biophysics and how is it related to physics and all science?" It's true I had heard about biophysics before but I never properly understood the field, so this Conference was a way to understand exactly what Biophysics is.

First I will talk about the Conference. Patiently the Professors were always there to explain every doubt we had and to answer all our questions.

For me, everything presented was new and I had an opportunity for discussions with the students from Brazil and others from Africa. Also, the professors were always available in the University or in the hotel where we stayed.

For the first time, I realized there's a very simple way to discuss science in general and biophysics in particular.

One of the purposes of the Colloquium was to establish cooperation between students from Africa and Latin America, and in my view this objective was reached. I learned the way that Brazilian scientists make science; it's really interesting to have students working to reach results with the help of teachers who act as facilitators in the process of learning and teaching. In this regard Africa, particularly Mozambique, has a lot to learn so that science develops.

In this way I was introduced to biophysics, and I got to see the multi-disciplinary nature of biophysics. Really now the main fields of science are coming together for the benefit of all humanity.
Some aspects I found in biophysics are in my field of knowledge, such as the Environmental Biophysics

(that is somehow included in Medical Radiation Physics in Mozambique) & Nuclear Magnetic Resonance (NMR).

Despite having never used NMR to determine protein structure, we've used this spectroscopic method to measure oil content in some seeds and to control the quality of some food and drinks. Unfortunately, we did not have a visit to an Environmental Biophysics laboratory, which I think would have been of special interest to me.

The laboratory visits were to me the most important part of the Conference. I had the chance to work in a practical way with some PhD and Masters students. That was really amazing. In the labs I really got to see how things are done! It was interesting to see how protein structure is elucidated using NMR or by the use of Informatics (that was the best part!!!)
I am thankful especially to Helen Jannisy and her collaborators; it was really nice to share some moments together. Thanks also to PhD Marcius Almeida and the team of Bioinformatics.

Another very important opportunity I had was to pay tribute to the one that gave a hand to Biophysics in Brazil and in the world in general. I refer to Carlos Chagas Filho. It was special to me to visit the room that used to be his. Thanks to the organizers who made it possible for me to have this special experience.

We are making efforts to establish a biophysics course here in Africa, but as the professors said, we still have a long way to go to this end. We hope to get a helpful hand from Brazilian scientists and experiences.
To finish my report, it was really nice and interesting to be in Rio de Janeiro, a beautiful city to be remembered for my lifetime. The beaches, the wonderful people and the good times I had there. I wish I could be there once again.

From Anley Tefera, Ethiopia

The Biophysics workshop was divided into 2 parts. The first (Aug. 30 – Sept. 3) consisted of various lectures by professors from all over the world in various fields (see Morales Report – Ed.). The second part (Sept. 6-0) consisted of rotation in various laboratories at the university to learn different techniques.

This report is a short reflection of my 2 weeks' stay and my overall experience. It also includes what I have gained from the workshops, and some suggestions.

My stay in Rio de Janeiro was one of a kind. Copacabana beach is beautiful and sightseeing at places such as Pan de Azucar was great. Participants in the course from Brazil, Argentina and Venezuela were very friendly. I also had the chance to meet and discuss various issues concerning Africa with other African participants.

The courses, broken into various symposia, given in the first week of the workshop were truly amazing. I was able to take part in a course where some of the best scientists in the world shared their findings.
In each symposium 4 or 5 investigators presented their current work, starting from the basic concept of

their study. I was introduced to many new concepts, techniques and novel ways to solve problems. For example, I thought it was very clever of one investigator to study flux of water through water channels by looking at volume change.

It just shows how it is possible to think of more than one way to solve a scientific problem.

In the second week, various groups at the university allowed us to learn various techniques in their laboratories.

The prior exposure to these techniques varied among the African participants, but it is safe to say almost all were new to 90% of us. For myself, even though I had heard about AFM and NMR before, I had not seen the actual equipment.

Three days were not enough to master any of the techniques, but we were introduced to their basic operation and their importance as a tool to solve science problems. We were also able to have some hands-on experience, where we were actually in the driver's seat operating some of the machines.

Before we, the African participants, left Brazil, we discussed the possibility of hosting a biophysical event in Africa in the near future to encourage growth of the field on that side of the world. Since our return home, we had some preliminary talks along the same lines.

We believe that Brazil spreading her wings to reach Africa is a very historic gesture, and the start of something new. Customarily, help and collaboration flow from the northern to southern hemisphere. But this act by Brazil will encourage lateral diffusion of co-operation in the southern hemisphere.

I am so grateful to be one of the selected participants, and I would like to thank the organizers, IUPAB and LAFeBS, and the sponsors, ICSU, IUPAB and the Brazilian government.

Special thanks to LAFeBS President Dr. Marcelo Morales and his team for their exceptional kindness, hospitality, and for organizing such a wonderful course. The best professors from all over the world, and the various laboratories, shared their time and knowledge, so many thanks to them also. Last but not least, I wish to thank all who made my trip possible and enjoyable, e.g. the African Office and my fellow participants.

Suggestions: The inclusion of African students in such a course is a very noble idea, and I hope this collaboration between the two continents will continue in the future. I believe it is beneficial to sponsor selected students from Africa to study in Latin America. The two-week course is exceptionally useful in introducing topics and techniques, but it will require lengthier studies and collaborations to make fast strides forward.

From Henry O. Otunga, Kenya

My nomination: I was attending a job appraisal interview at my place of work, Maseno University, Kenya. The panel had the chance to peruse my CV and my PhD details. Later that evening I had a phone call informing me that I had been

nominated and urging me to forward my application to the organizers.

My first reaction: Since childhood, I had known of Brazil's prowess in soccer. In my country more than 90% of soccer lovers are fanatical followers of Brazilian soccer, myself included. Kenyans are passionate about the famous Brazilian players, such as Pele, Ronaldinho and others. Therefore, when I was invited to travel to Brazil, it was the opportunity of a lifetime.

It had never crossed my mind that one day I would travel to Brazil. Furthermore, Brazil is my first destination outside Africa.

Contact with the organizers by email was prompt and efficient, and they were very understanding.

On arrival in Sao Paulo I was met and ushered smoothly through. At Rio I was met by an official who identified himself before whisking me away to my hotel in a saloon car. The coordination was superb.

Accommodation, shuttle services and food were simply excellent.

I have attended conferences in Nairobi, Kenya and Dar es Salaam in Tanzania. In terms of scope and organization, the Brazil conference was unbeatable in many aspects.

Presentations by invited speakers were very detailed, of high quality and inspiring. I believe this shows the competence of South American scientists and/or science. I was especially mesmerized to discover how important a role physics and chemistry play in the understanding of the properties and interactions of proteins (biology). I concluded that at the molecular level, biology, physics and chemistry are not distinct but complement each other.

Equally impressive, in terms of content and appearance, was the quality of posters during the poster session. The number of students who turned up was relatively good, not to mention the gender balance, which was satisfactory.

A walk through university laboratories gave me the chance to learn about some equipment I had never seen before. I especially remember the NMR equipment.

Henry at front Right with other students.

What did not escape my notice is the high quality of research being conducted. This is vindicated by the fact that many of the researchers based there have publications in internationally renowned journals such as *Nature* and *Materials Today.* Thus, I conclude that Brazilian science is going places.

Brazilians are simple, happy and sociable people despite the challenges they might be having. During my two-week stay, I don't remember ever meeting a

depressed Brazilian. People are always smiling and taking it easy.

The infrastructure is impressive. The road network, public transport system, seaports, airports, bridges, underground tunnels etc. were just great. I also visited some tourist attraction such as *The Christ* and the Rio Museum. Given another chance to visit Brazil, I would not hesitate.

Thank you.

From Clement Shonhiwa, University of Zimbabwe

I was the only representative from Zimbabwe; there were 2 South Africans, 2 Mozambiqueans, 2 Ethiopians, 1 Kenyan, and 1 Moroccan. All had strong backgrounds in Physics, Chemistry, Mathematics and Biology. The majority had either PhD or Masters degrees from their respective countries.

The conference was in 3 major parts: i) oral presentations of scientific papers; ii) Poster presentations; iii) practical laboratory sessions by African participants.

The **presentations** were generally of high quality and by those seasoned in biophysics. The selection of presenters was fairly good but I think at least 1 or 2 from the African continent should have been included. Timing was generally good but inadequate for discussions afterwards.

Personally, I was very impressed by the quality of presentation from Prof. Burns C. Blaxall (Univ. of Rochester USA) and Luis Costa of Petrobras (Brazilian Petroleum Co.) They clearly spelt out how to link the scientific and industrial worlds. I think this gap should be reduced.

Indeed, there should be a bridge where research results are taken by industrialists for the betterment of development of humankind. In these 2 presentations, I learned how to transfer my research work into industrial work.

There were 120 **posters** presented and these were categorized into 6 classes: Biophysics & new therapies; Biochemistry applied to Biophysics; Cell Signalling/Cell Physiology/Gene expression; Channel/ Transporters/Receptors; Biophysics & Physiology; Protein structure/ Folding/Modelling.

Of these, 4 were presented orally and there was also a selection for the best posters, one of which was from Africa. We were all happy about the selection.

The posters were generally of good quality and it was a good lesson to some of us. Hopefully we shall implement the lessons we learnt and in the future we shall improve our own work.

The **practical laboratory session** was attended by students from Africa only. The students had a series of practical lessons in which we were taught how to use some state-of-the-art analytical laboratory equipment ranging from gas chromatography to more sophisticated digital NMR in biomolecular and pharmaceutical research.

We learnt that the Institute is well equipped and has qualified person-

nel for research in Biophysics. Our exposure to this state-of-the-art equipment was really an eye-opener. We were all well satisfied and agreed that given the opportunity we should produce a lot of published paper through collaborative research.

Social aspects: The delegates at the workshop were very social, especially the students and the university staff. We from Africa easily incorporated ourselves into the Brazilian university society because of its high degree of hospitality.

During weekends we were taken to some tourist places where we were able to intermingle with the wider Brazilian community. My observation was that Brazilians are generally friendly and I hope this would be the same in the African society.

of Education and Culture, has enabled us to increase travel and study grants.

Conclusion: We humans should work together for the improvement of humankind, irrespective of colour, race or geographical/political differences, as demonstrated during this conference. The conference was a uniting force of all the continents in the third world countries. We look forward to hosting a similar event in Africa.

SPANISH BIOPHYSICAL SOCIETY (SBE)

Report from Prof. Alicia Alonso
President 2006-2010

During my term as President, I chose to focus on three main aims: to promote the inclusion of young researchers; to consolidate relations with other Biophysical Societies; and to increase the influence of SBE at national and international levels.

Our membership has increase from 180 to 350, mostly by younger members. This, along with subsidies from the Spanish Ministry

We have inaugurated the SBE Award for Young Researchers, as well as awarding several other prizes. Two of our younger members have also been awarded prizes by the Biophysical Society and by EBSA.

The title 'Member of Honor' has been bestowed on two of our founders, Drs. Juan Subirana and Manuel Cortijo, and on Dr. Carlos Bustamante in whose laboratory many of our members have trained.

Six international congresses have been held during my tenure, with the help of the local organizers. We have maintained our traditional collaboration with Portugal and the

Ibero-Americas, and reinforced our ties with Italy and Britain.

As a member of the IUPAB Executive, I shall continue to be involved in plans for the IUPAB Congress in Beijing in 2011.

Ten courses have been run or supported during this term. The most recent, this year, on Protein Structure, was aimed mainly at Spanish students.

There was an international workshop on Membrane Proteins, Signal Transduction and Disease held in Bilbao, organized by the Dept. of Biophysics of the University of the Basque Country.

The first Bilbao Advanced Course on Biophysics given by Dr. Julio Fernandez and his group from Columbia University attracted 20 students from various European countries.

My successor as President is Professor Juan Carmelo Gomez Fernandez.

Alicia Alonso
November, 2010

(The above is an edited extract from Prof. Alonso's summary of her term as President. The full version can be found on the IUPAB website. Editor)

Women in Science Profile:
Professor Suzanne Cory Australia

This year IUPAB was asked to nominate candidates for the L'Oreal UNESCO Award for Women in Science, and it came to our notice that the first Australian to win this award, in 2001, was Professor Suzanne Cory, for her work on the link between genes and cancer. Professor Cory is also the first female director of the prestigious Walter and Eliza Hall Institute of Medical Research, where she succeeded Sir Gustav Nossal in 1996 until last year.

Professor Cory is recognized as a world expert on the genetics of immunology, cancer and cell death. In May of this year she was elected President of the Australian Academy of Science.

Other honours include election to the learned science academies of the UK, US and France and her award as a Companion of the Order of Australia and a Knight of the Legion of Honour of France.

As a determined supporter of scientific education, Cory is full of admiration for the Academy's science teaching programs, which aim to inspire young students with an excitement for science. One of these, "Primary Connections", has already been taken up by over 50% of Australia's primary schools, and a similar program is being developed for high school students.

But Professor Cory has other strings to her bow: she is married to another scientist, Professor Jerry Adams, and together they have raised a family of two daughters, she enjoys the outdoors and is a keen bushwalker.

She continues to lobby enthusiastically for funding for medical research and for increasing investment in science.

Her interests cover the internationally important issue of climate change as well as ecology, water resources and population. She has been quoted as saying "we want to provoke a national discourse on big topics".

For our Newsletter we are always interested to receive contributions from members of our Adhering Bodies, including profiles of people of interest, local awards and similar topics.

Louise Matheson - Editor